PB-218 277

CLEAN WATER IS EVERYBODY'S BUSINESS

Public Health Service
Washington, D.C.

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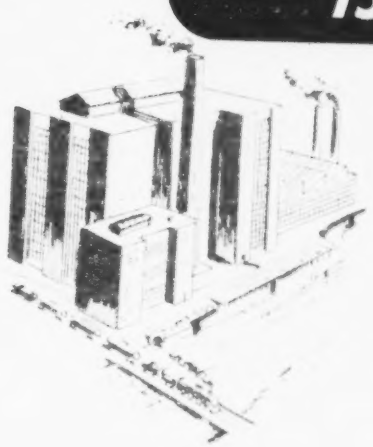
Clean Water

IS EVERYBODY'S BUSINESS



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"Our Nation has a major interest in the control of water pollution because of the importance of this problem to our health and wellbeing. For some years we in the Public Health Service have been working on a comprehensive national plan to produce a healthier America. The first element of the plan is a sanitary environment. A sanitary environment is the foundation of a sound health structure. A major task in creating a sanitary environment—and one of its most neglected aspects—is the development of a Nationwide program to reduce the pollution of our water resources."—Dr. Leonard A. Scheele, Surgeon General, Public Health Service, Federal Security Agency.

FEDERAL SECURITY AGENCY • Public Health Service

In cooperation with the

State Water Pollution Control Agencies

WATER IS ONE of our great natural resources. Without it, we could not exist. Our bodies need it as much as our industries do. We drink it and are refreshed. We wash in it and are clean. We swim in it and are exhilarated. Our livestock drink it and thrive. We fish in it for sport and for profit. We build homes near it for esthetic satisfaction. We build factories near it for the transportation routes it offers and because so many industrial processes require it. Clean water is life-giving, yet . . . hardly any of our Nation's water sources are free of pollution!

The pollution of our waterways has been called a crime against nature and society. Pollution endangers our health with raw sewage from our homes and our communities. It steals from us our sports fishing, boating, bathing and other priceless recreational uses of water. It denies us the use of water for our numerous industrial processes. It robs us of our shellfish foods and commercial fish supplies. It reduces our property values by impairing not only the appearance of the land, but also its usefulness. It poisons our drinking water and raises offensive odors. It damages our bridges, piers, boat hulls and buildings with acids, fumes and other types of industrial waste.

Pollution today is a product of our great industrial era. As a problem, however, it has existed for over 100 years, growing in leaps and bounds with every generation as greater masses of people became concentrated in our major cities to satisfy the manpower demands of our expanding industrial machine.

Pollution comes from three major sources: from our communities, from our industries, and from soil erosion. This booklet, however, will confine itself solely to the first two sources.

Our communities discharge domestic sewage. It consists of our body wastes, our used bath and dish water, washings from restaurants and laundries, refuse from hospitals and hotels, and wastes from other establishments serving our needs.

Industrial wastes, on the other hand, are the acids, chemicals, greases, oils, animal and vegetable matter—and all other objectionable substances that are discharged by our industrial plants.

Our population and our industries have grown at a rate which has outstripped our existing waste treatment facilities. As a result, hundreds of billions of gallons of raw sewage and other noisome wastes are dumped into our streams every year. These wastes often pollute streams far beyond their capacity to purify themselves. This is especially true when streams are sluggish, or shallow, or small, or when their volume is cut down by extended dry spells. The pollution concentrations in them then reach their most dangerous and destructive levels.

Stream pollution today is everyone's concern. It affects most of us in more than one way—as citizen, manufacturer, parent, consumer, vacationist, sportsman, farmer, doctor, engineer, conservationist. Somehow, somewhere, each of us pays a price for the pollution of our waterways.

Rivers and streams laden with untreated sewage and waste carry disease bacteria. However, because modern science has built a protective wall of water purification processes, waterborne epidemics no longer ravage our communities as frequently as in the past. But this protective wall must be kept under constant vigilance if it is to meet the ever-present and increasing pressure of pollution.

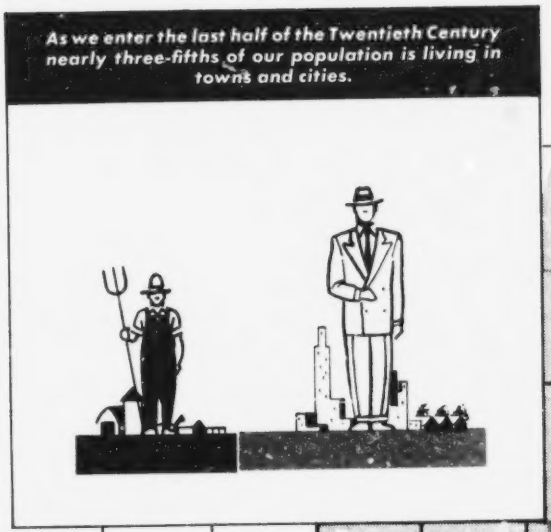
The need for cooperation among our communities and our State and Federal governments in solving the water pollution problem is greater now than ever before. State health and conservation groups, sportsmen's clubs, stream pollution commissions, numerous industries, the Public Health Service, and many other organizations, are coordinating their efforts in many parts of the country, seeking ways of preventing and abating the pollution of our water resources.

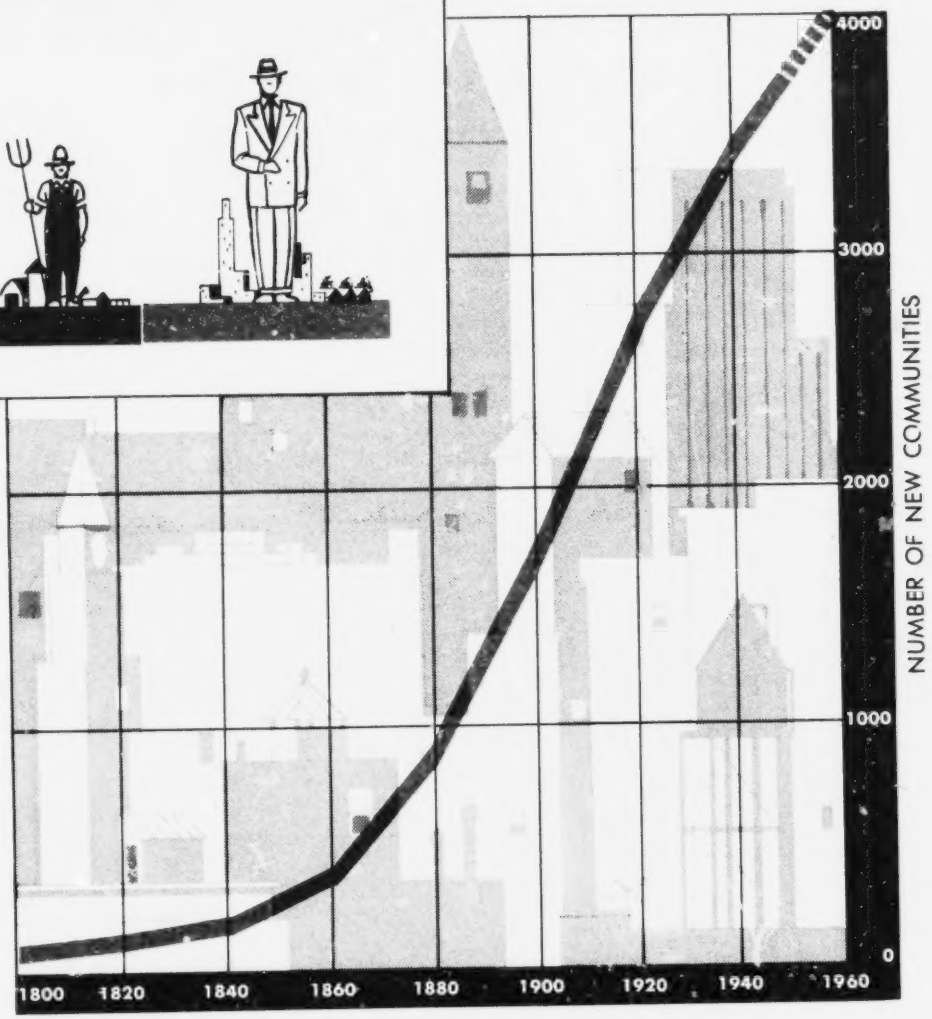
As citizens of a country where voluntary action is traditional, we are experienced in uniting against conditions which endanger the health and welfare of our families, our communities and our Nation. Water pollution has created another condition which demands our united efforts if it is to be corrected.

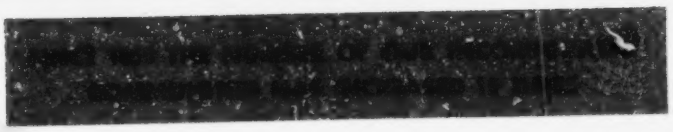
THE PROBLEM

IN SPITE OF the excellent work done in the past by some States, municipalities and industries, too many of our lakes and streams are polluted. The condition has been getting progressively worse. The need to reclaim and protect our streams, however, is gaining general recognition. In response to popular demand for action, some States are adopting stream pollution control laws, others are strengthening existing legislation. In addition, Congress has given us a law aimed at stimulating a broad national program of pollution prevention and control (the Water Pollution Control Act of 1948).

EACH NEW COMMUNITY—A NEW SOURCE OF POLLUTION

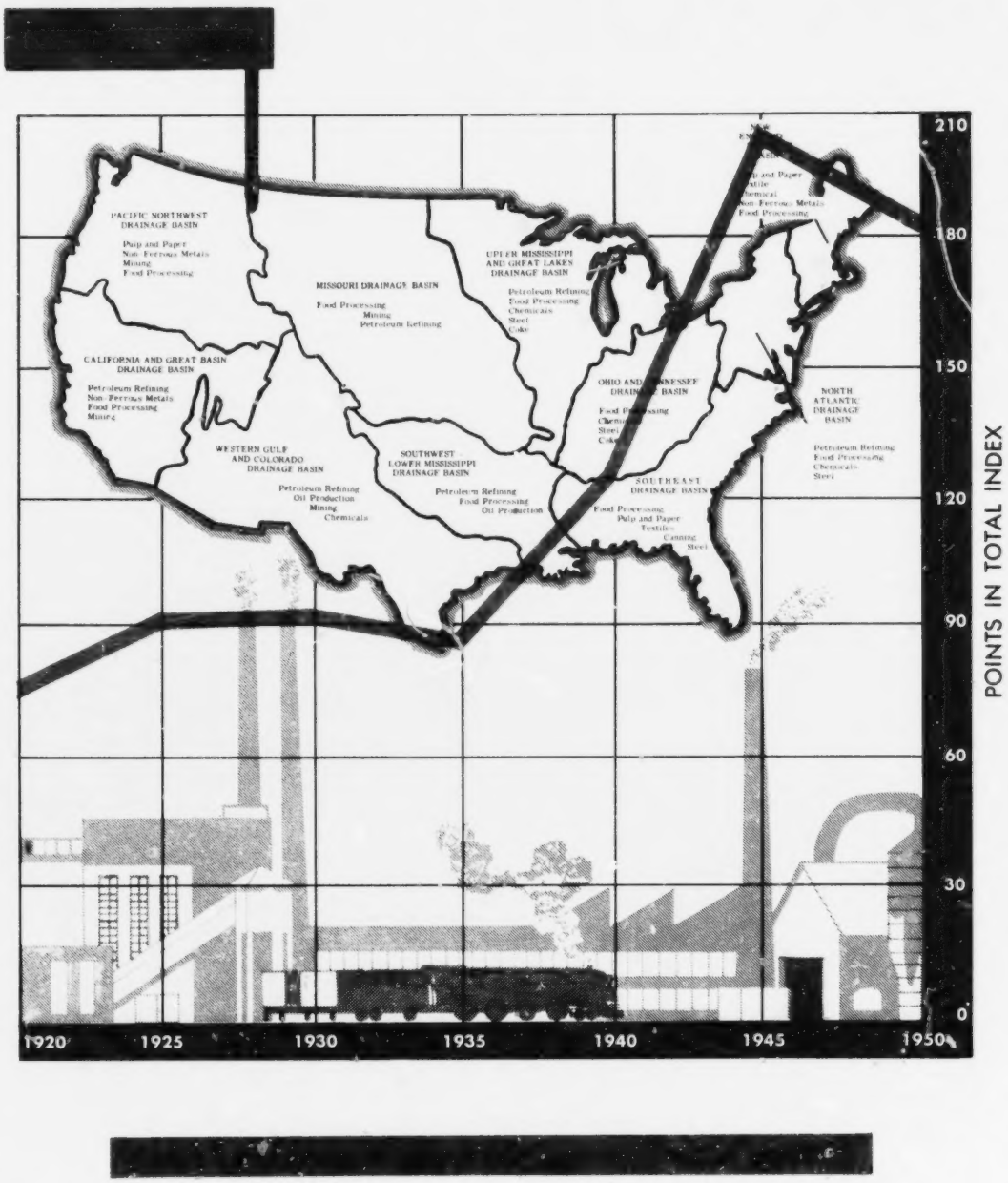




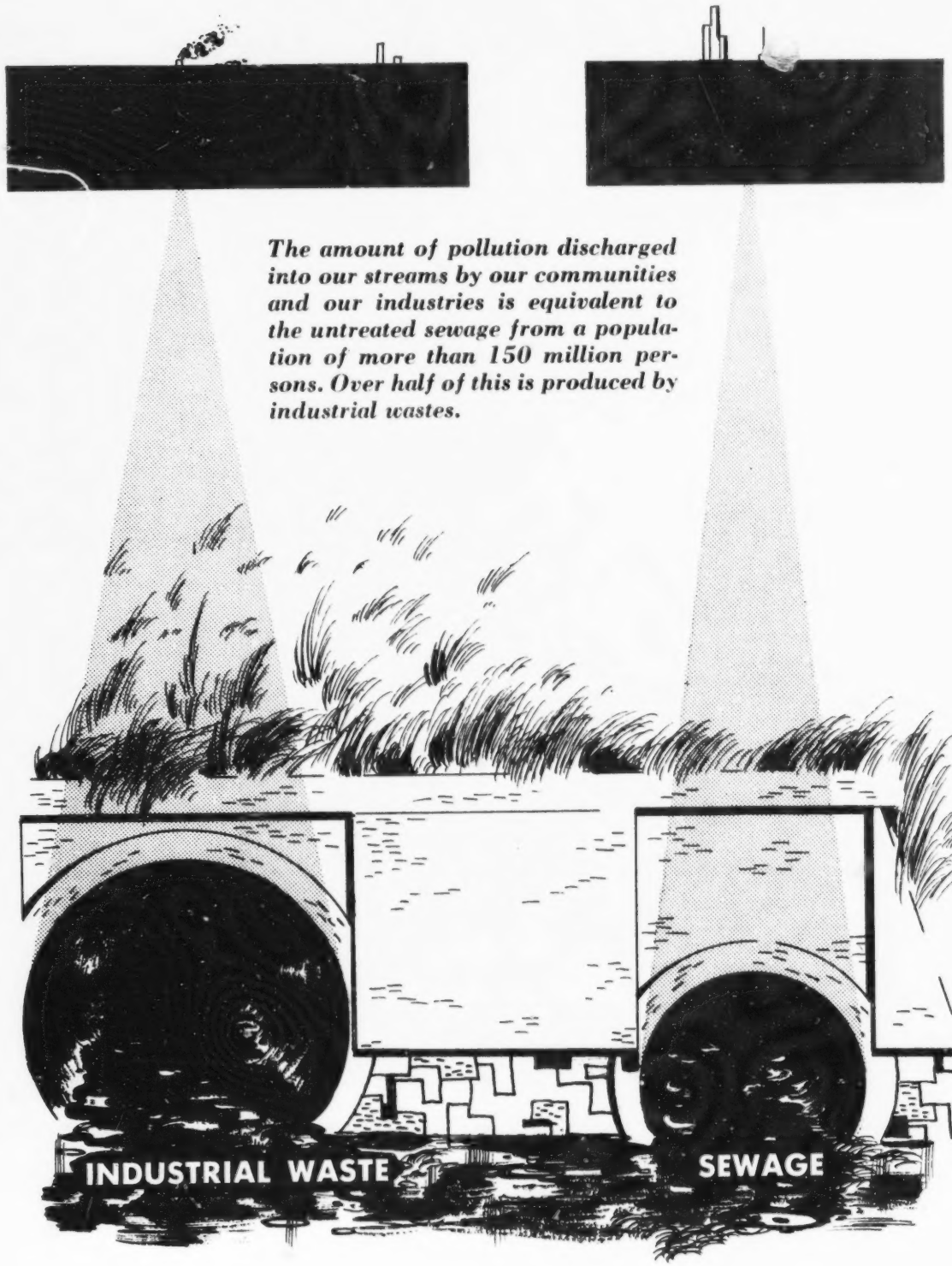


Nearly half the population now lives in 140 metropolitan districts covering only 1½ per cent of the total land area of the United States. Over 75 million persons discharge their wastes through sewers into our waterways but only a portion of these wastes is adequately treated.

INDUSTRIAL WASTES POLLUTE OUR STREAMS



Our country's industrial growth can also be measured by machine power, which has increased over 250 times since 1840. And it can be gauged by the dollar output of our industries, which was $4.5 billion in 1899 and close to $166 billion in 1948.



The amount of pollution discharged into our streams by our communities and our industries is equivalent to the untreated sewage from a population of more than 150 million persons. Over half of this is produced by industrial wastes.

POLLUTION *Damages* IMPORTANT WATER USES

CASE HISTORY

PHILADELPHIA

MILWAUKEE

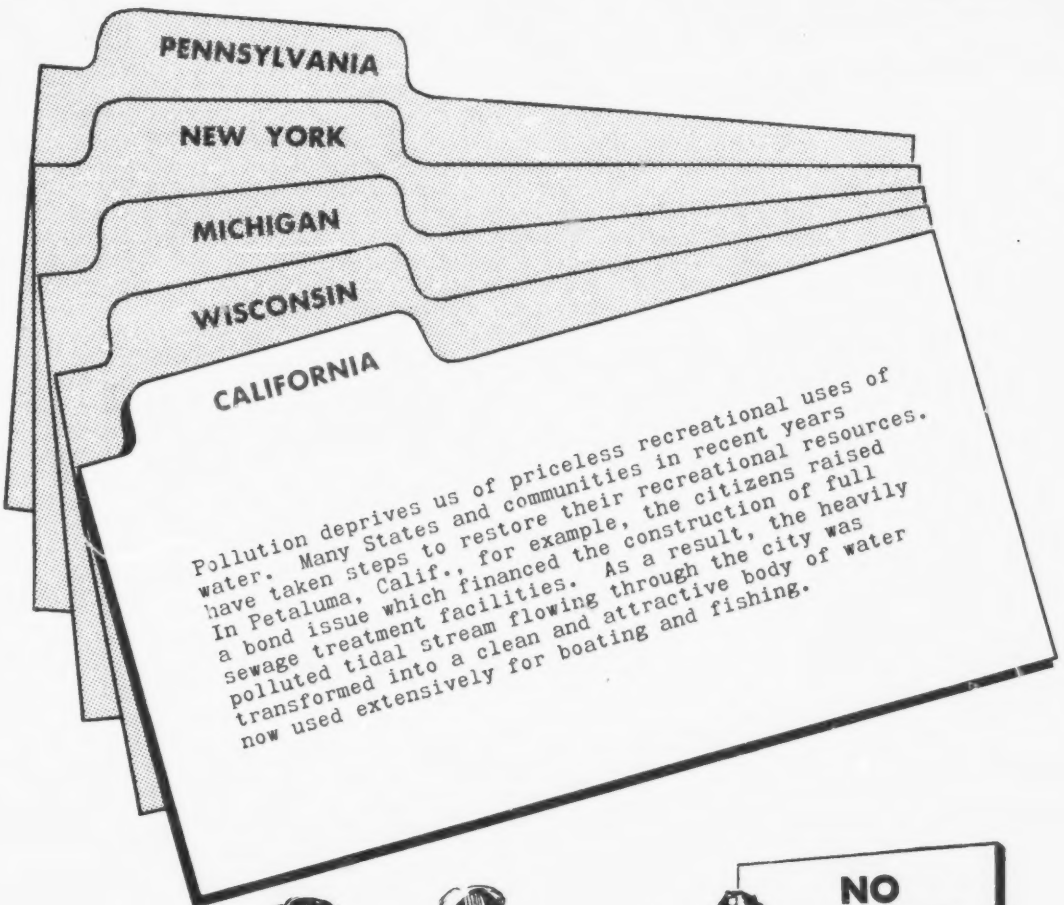
ALAMEDA

CLEVELAND

Pollution endangers public health. When it becomes excessive and overwhelms water treatment facilities, epidemics may follow. Even where water treatment plants can handle emergency loads, there is the ever-present danger of a breakdown. Sewage treatment plants, thus, provide an additional protection when wastes are discharged into sources of public water supply. This kind of double defense is gaining popularity in many of our cities.

PUBLIC HEALTH

CASE HISTORY



Pollution deprives us of priceless recreational uses of water. Many States and communities in recent years have taken steps to restore their recreational resources. In Petaluma, Calif., for example, the citizens raised a bond issue which financed the construction of full sewage treatment facilities. As a result, the heavily polluted tidal stream flowing through the city was transformed into a clean and attractive body of water now used extensively for boating and fishing.

CASE HISTORY

VIRGINIA

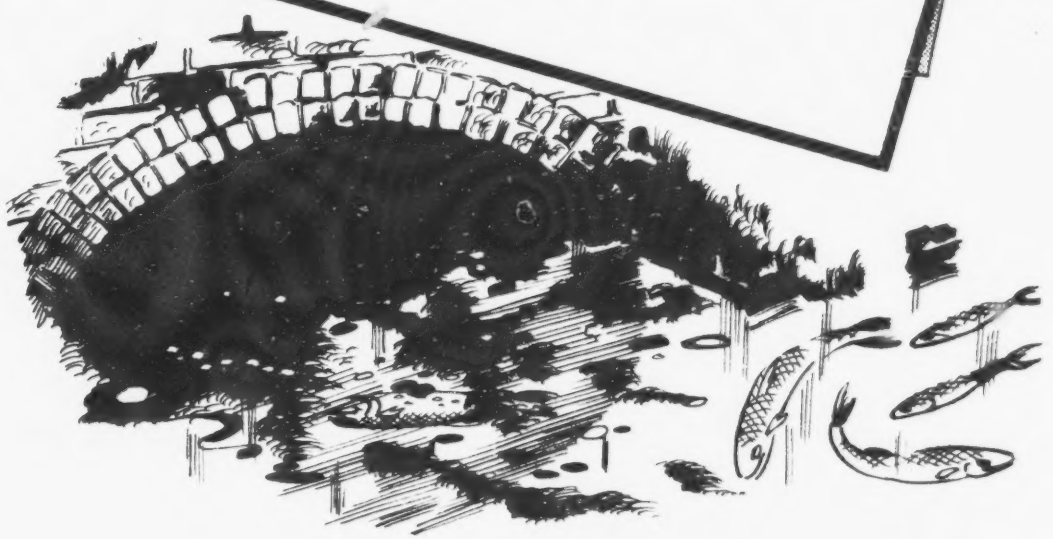
MICHIGAN

WISCONSIN

PENNSYLVANIA

OREGON

Polluted waters are particularly destructive of commercial fishery supplies. Pollution has reduced the annual value of salmon in the Willamette River, Oregon, from $5 million to $1 million. Today, however, State sanitary authorities in Oregon and the responsible industries are working to eliminate the industrial wastes which produce much of the Willamette's pollution.



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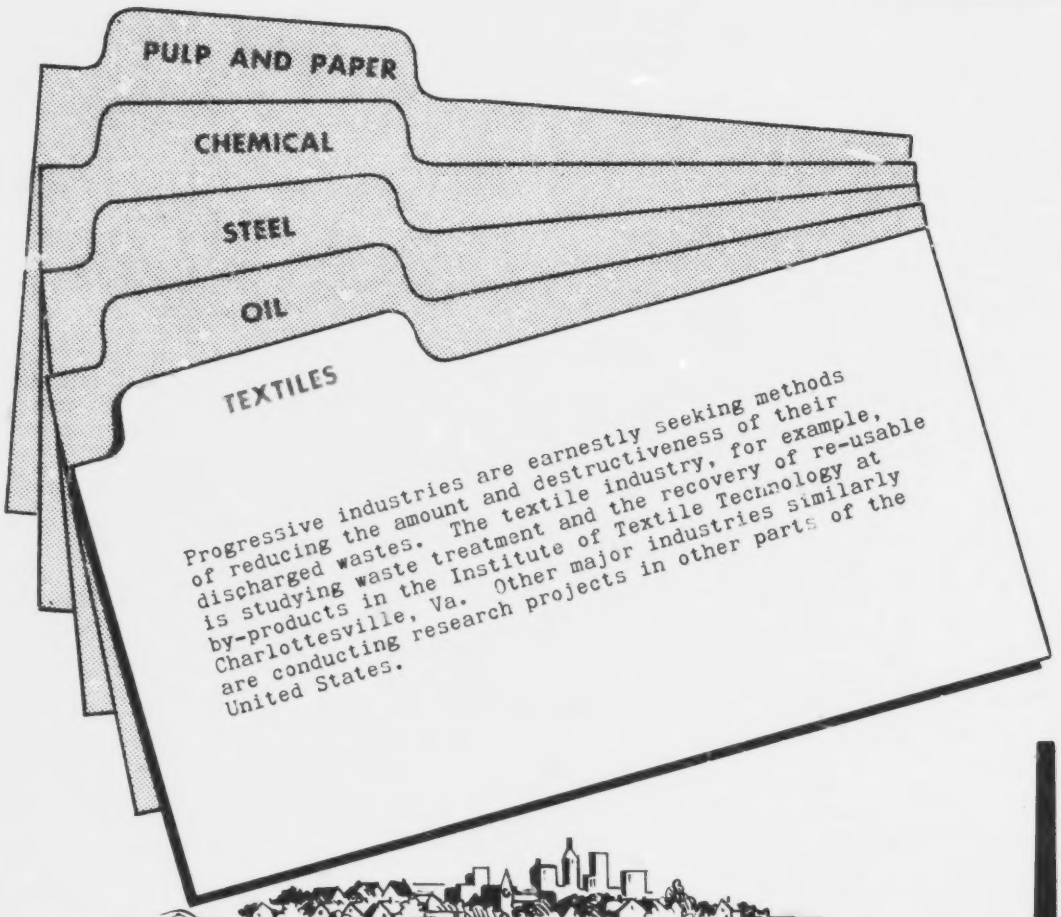
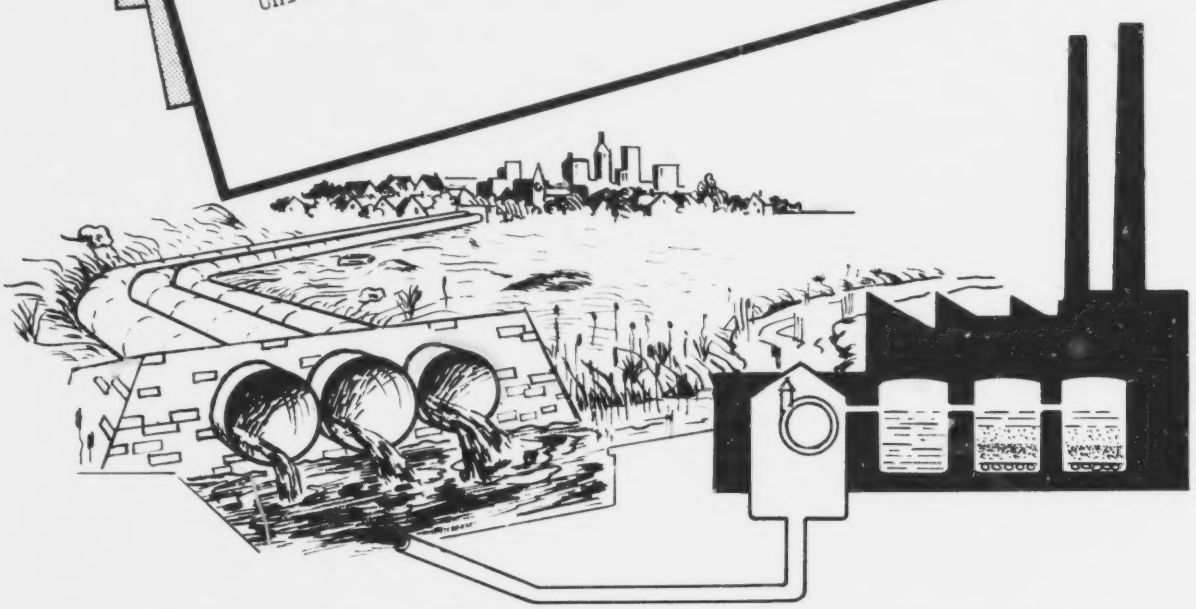
CASE HISTORY

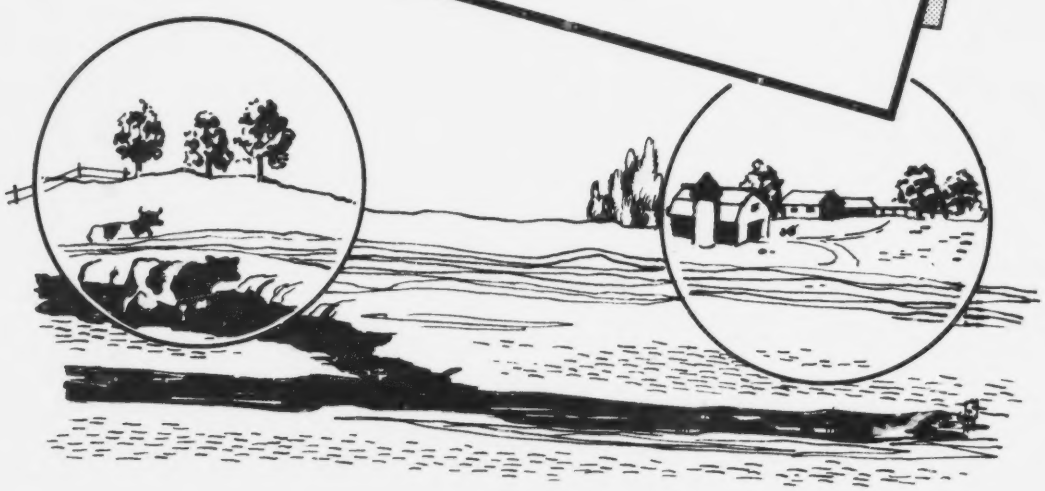


Progressive industries are earnestly seeking methods of reducing the amount and destructiveness of their discharged wastes. The textile industry, for example, is studying waste treatment and the recovery of re-usable by-products in the Institute of Textile Technology at Charlottesville, Va. Other major industries similarly are conducting research projects in other parts of the United States.



CASE HISTORY

ILLINOIS
MINNESOTA
IOWA
IDAHO
NORTH CAROLINA
Water pollution is no friend of the farmer. He knows it reduces his land values, affects his livestock, threatens his family's health, and he aggressively seeks its elimination. In 1949, North Carolina farmers meeting in their annual Farm and Home Week adopted a resolution calling on the General Assembly to "correct the growing danger of stream pollution." Farmers elsewhere—individually and collectively—have been fighting stream pollution for many years.



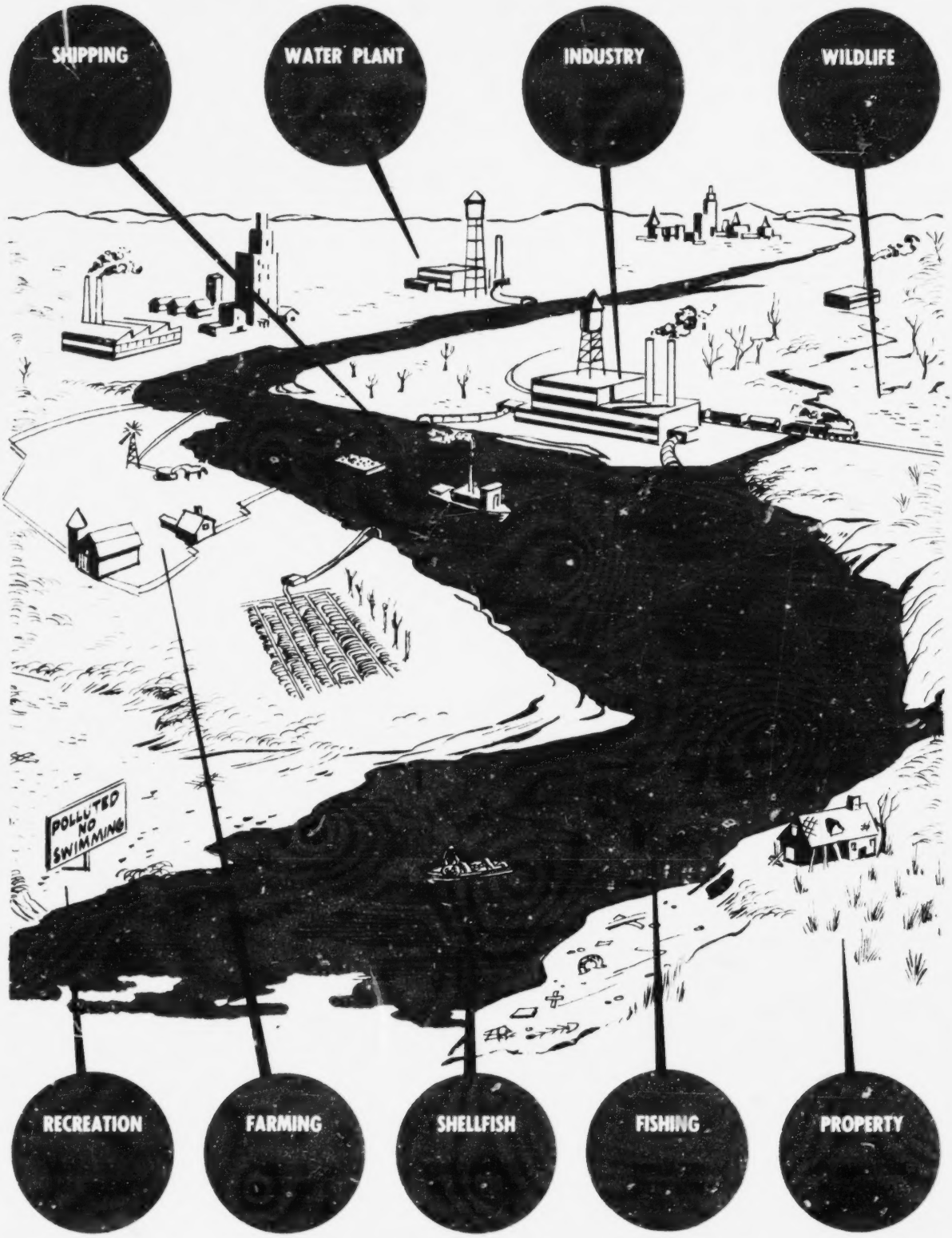
CONSTRUCTION of treatment plants has not kept pace with the increasing amount of sewage and industrial wastes being discharged into our rivers and lakes. This condition is even more critical today than it was before World War II. In the face of higher construction costs, heavier concentrations of populations in our urban areas, and the advent of war-borne industries, the gap between the amount of pollution and the number of treatment plants is wider now than ever before.

In order to reduce the pollution entering our waterways, our municipalities must build more sewage treatment works or improve their existing facilities. Our industries, at the same time, can play their part by constructing waste treatment plants and by employing good "housekeeping" methods to reduce the amount of wastes before they enter the treatment plants.

THE OBJECTIVES

THE PREVENTION AND ABATEMENT OF STREAM POLLUTION —

- *By comprehensive corrective measures*
- *By aggressive action of water pollution control agencies*
- *By coordination of local, State and Federal efforts*
- *By industry-wide cooperation*
- *By everybody's active participation*

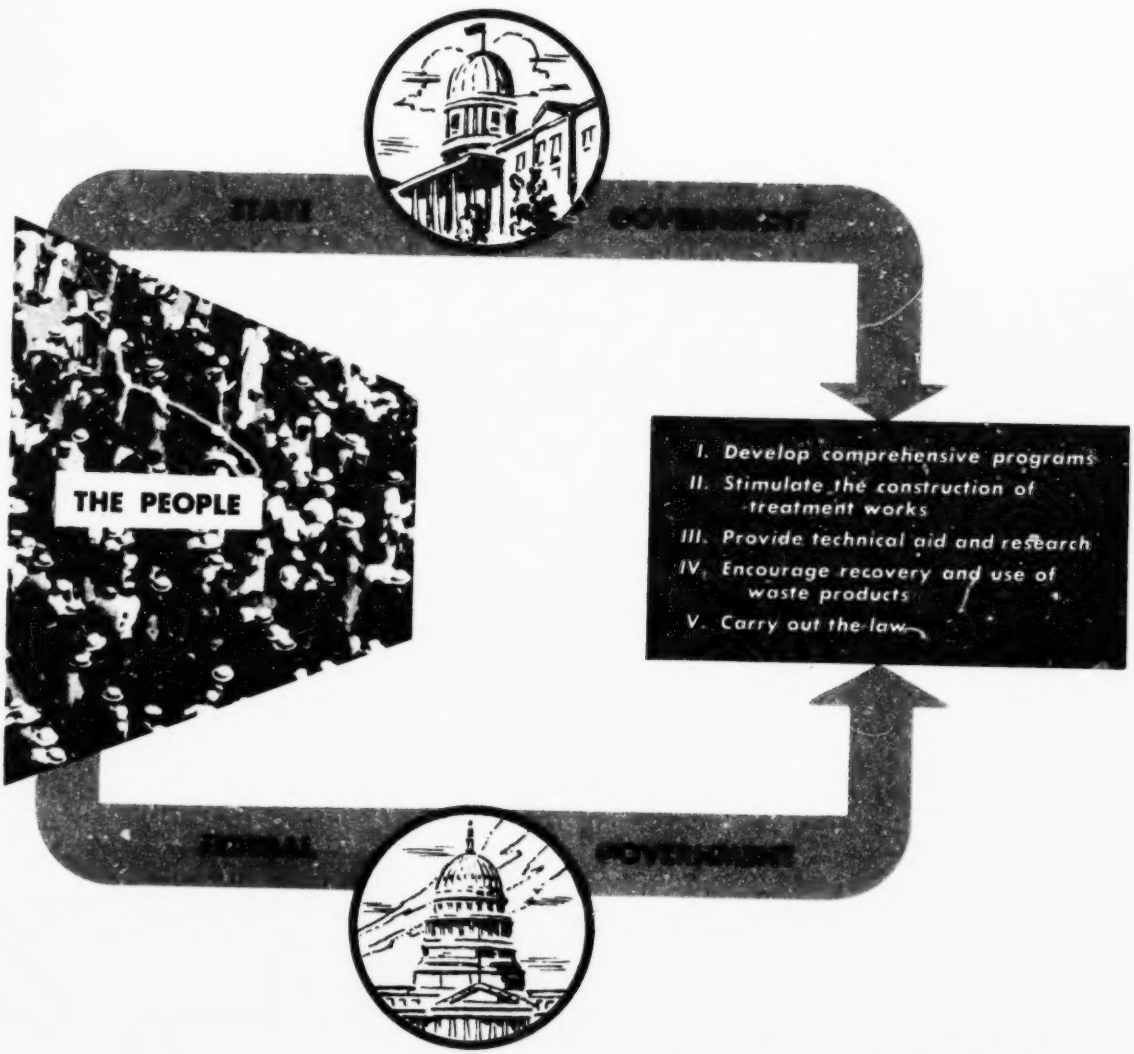


POLLUTION PAINTED THIS PICTURE ...

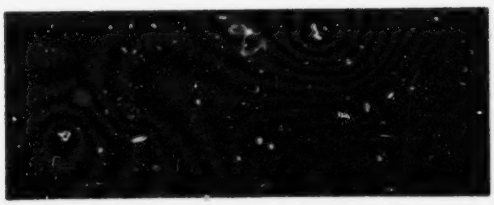
• • • *But* CORRECTIVE ACTION CLEANED IT UP

THE PROGRAM

WE, THE PEOPLE, through representatives in our State and Federal governments, have employed technical personnel to help us solve our water pollution problems. These people by themselves, however, cannot solve these problems. They can seek out sources of water pollution for us. They can help us determine the most suitable uses for our waters. They can carry on research necessary to develop standards of quality for each water use. And they can help us to determine how much treatment must be given various wastes going into our rivers and lakes. But, in the final analysis, it is we, the people, who must provide the money to build the plants to treat the wastes now destroying our water resources.


THE PEOPLE
I. Develop comprehensive programs
II. Stimulate the construction of treatment works
III. Provide technical aid and research
IV. Encourage recovery and use of waste products
V. Carry out the law

PROGRAM I — DEVELOP COMPREHENSIVE PROGRAMS



AN AUTHENTIC ILLUSTRATION

PROGRAM 1 — DEVELOP COMPREHENSIVE PROGRAMS

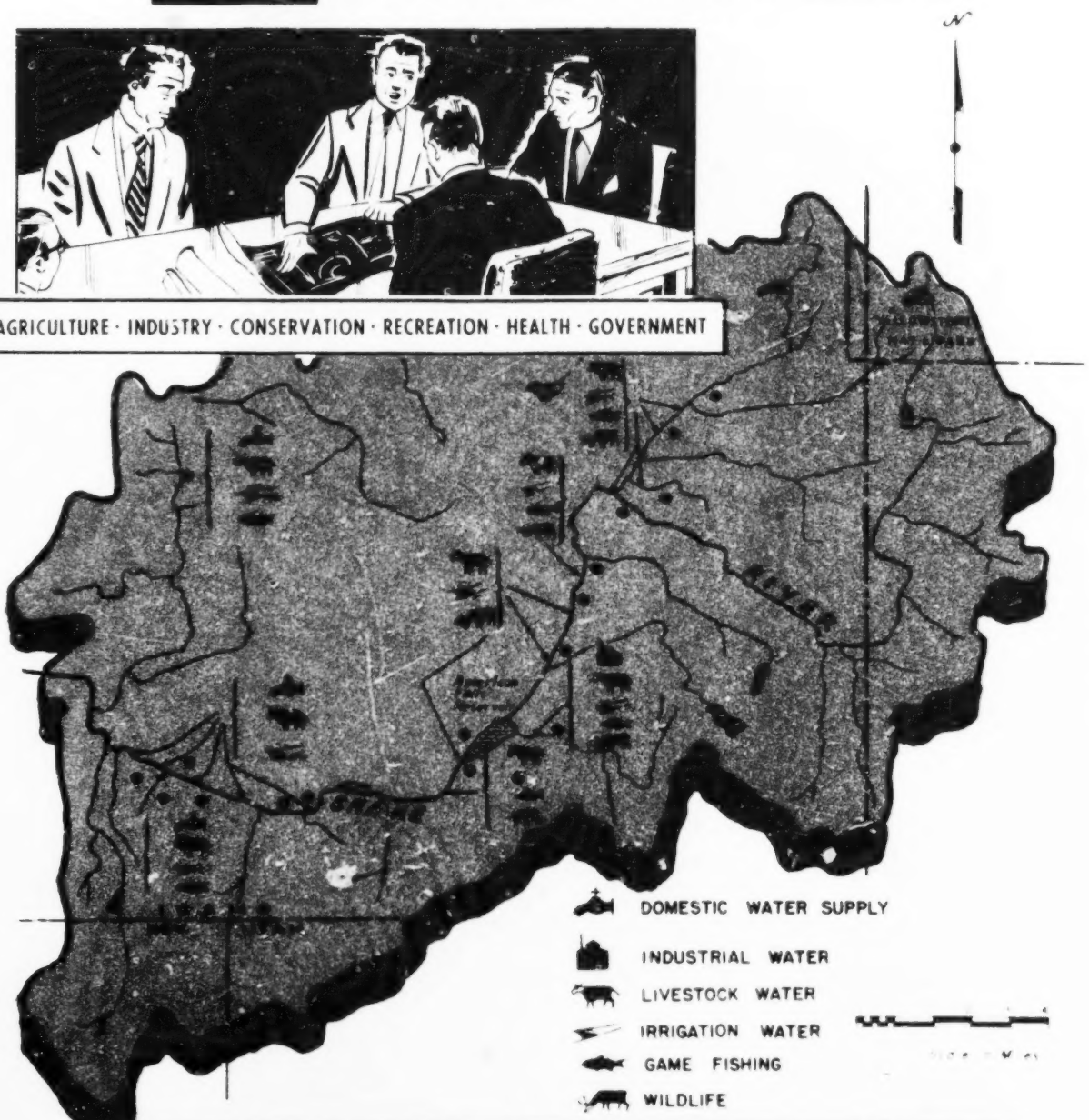
STEP NO. 1 ***Determine Existing Stream Conditions***

Our technicians must seek out sources of pollution and determine the amount in each case

PROGRAM 1 — DEVELOP COMPREHENSIVE PROGRAMS

STEP NO. 2 *Determine Most Suitable Stream Uses*

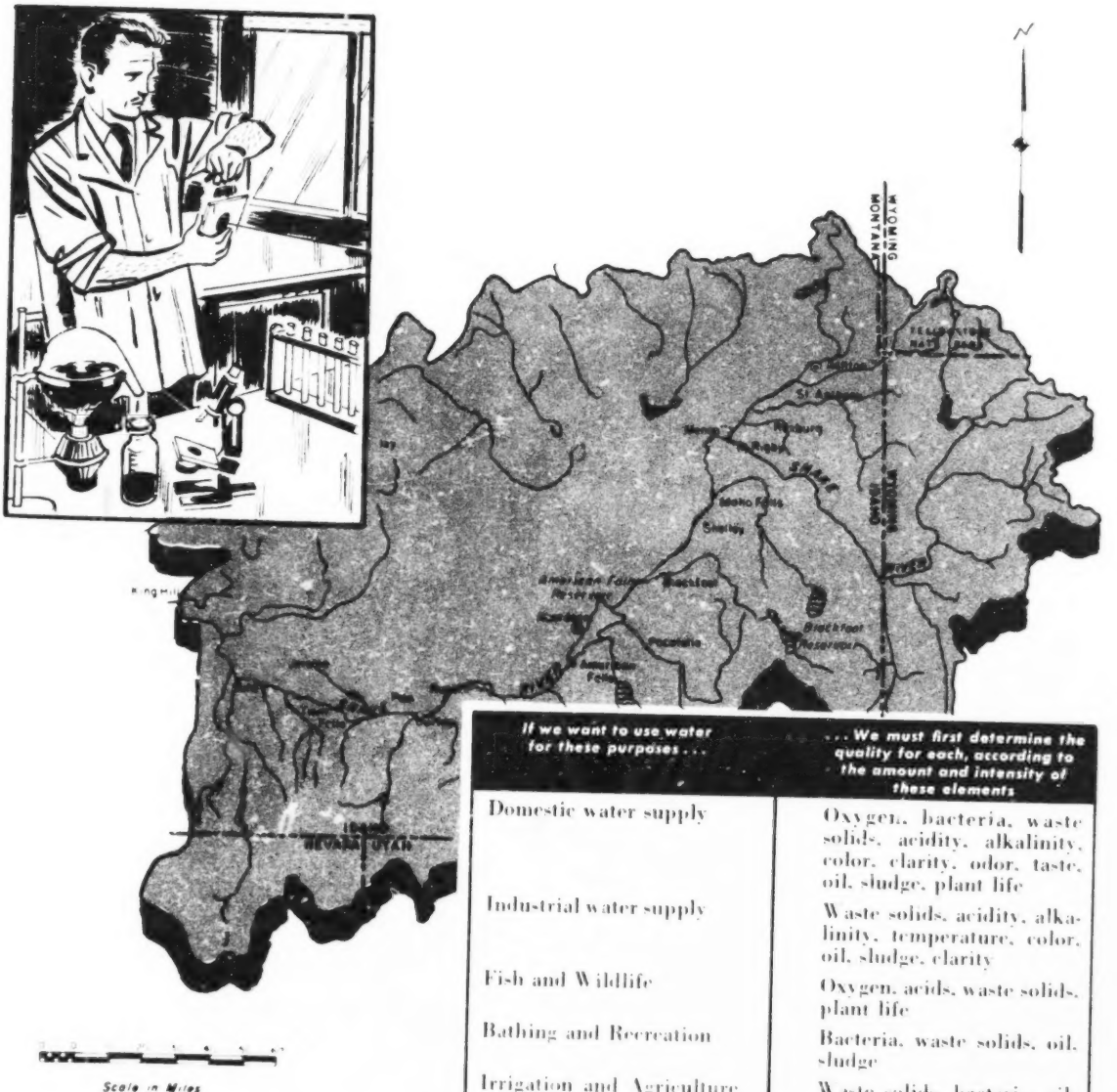
AGRICULTURE · INDUSTRY · CONSERVATION · RECREATION · HEALTH · GOVERNMENT



We must determine how we want to use the waters of our streams before we build our waste treatment plants, because treatment of wastes will vary according to the quality of the water desired by the water users.

PROGRAM 1 — DEVELOP COMPREHENSIVE PROGRAMS

STEP NO. 3 *Determine Standards of Water Quality*

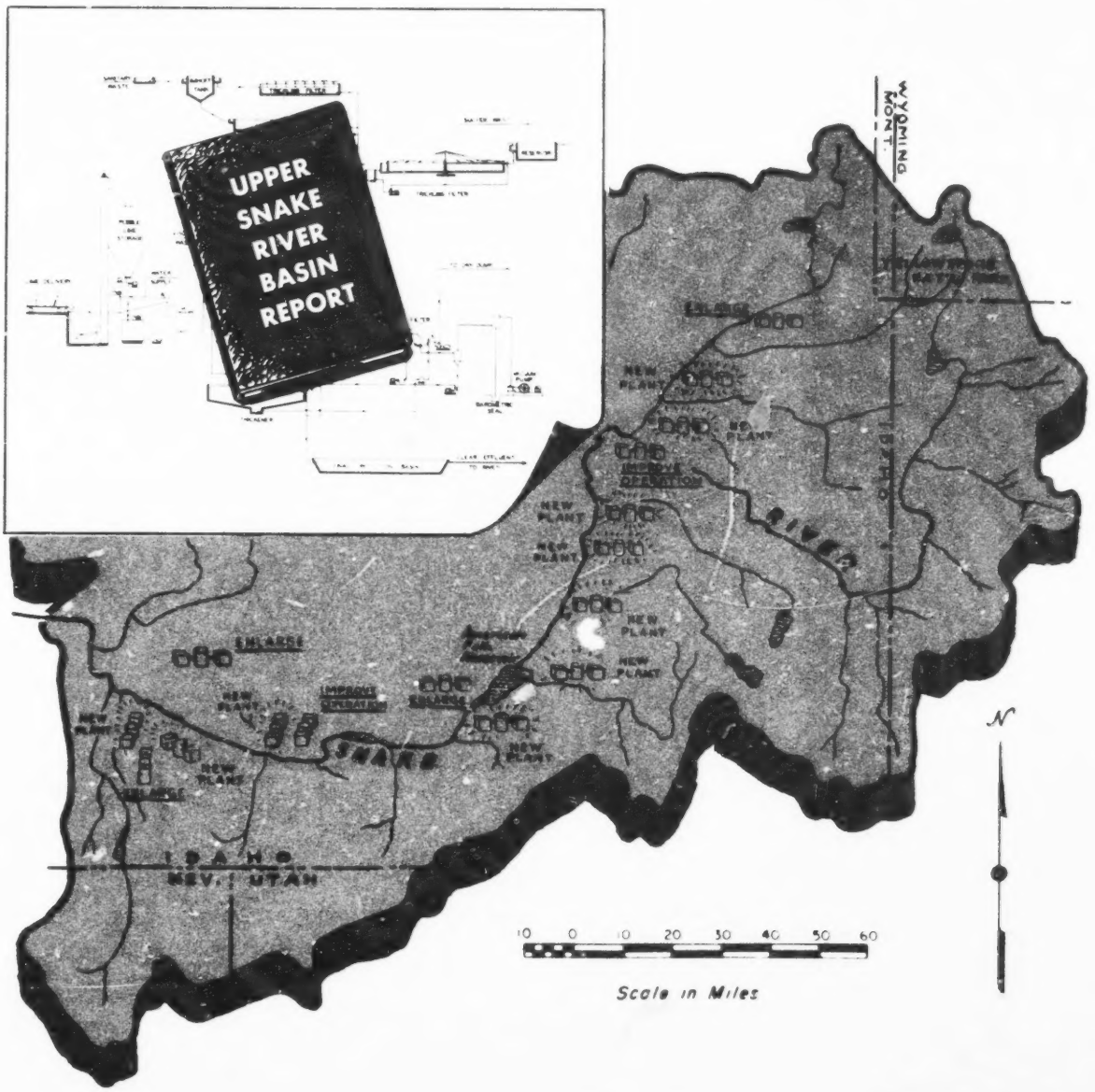


If we want to use water for these purposes . . .	. . . We must first determine the quality for each, according to the amount and intensity of these elements
Domestic water supply	Oxygen, bacteria, waste solids, acidity, alkalinity, color, clarity, odor, taste, oil, sludge, plant life
Industrial water supply	Waste solids, acidity, alkalinity, temperature, color, oil, sludge, clarity
Fish and Wildlife	Oxygen, acids, waste solids, plant life
Bathing and Recreation	Bacteria, waste solids, oil, sludge
Irrigation and Agriculture	Waste solids, bacteria, oil, sludge

In any program of water pollution control, we must establish water quality standards for each of the various uses we wish to make of our waterways.

PROGRAM 1 — DEVELOP COMPREHENSIVE PROGRAMS

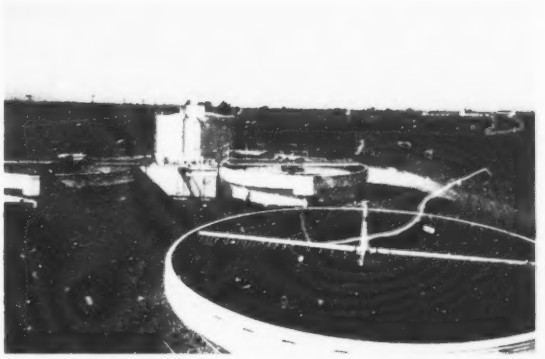
STEP NO. 4 *Program for Treatment Plant Construction*



Once the sources and amount of pollution are determined, and decisions are made as to the most suitable water uses, we can then determine the degree of treatment required at each source of pollution. This is our program of corrective action.

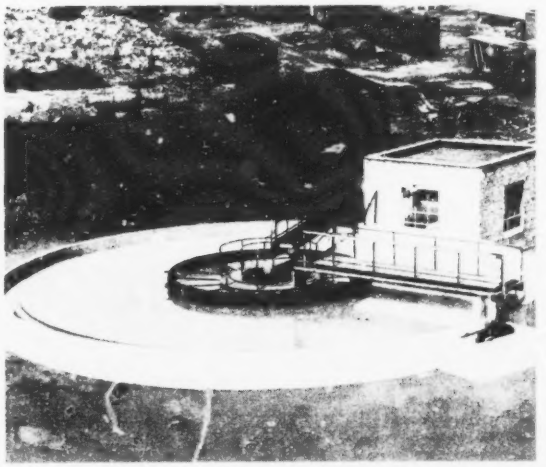
PROGRAM II —
STIMULATE THE CONSTRUCTION OF TREATMENT WORKS

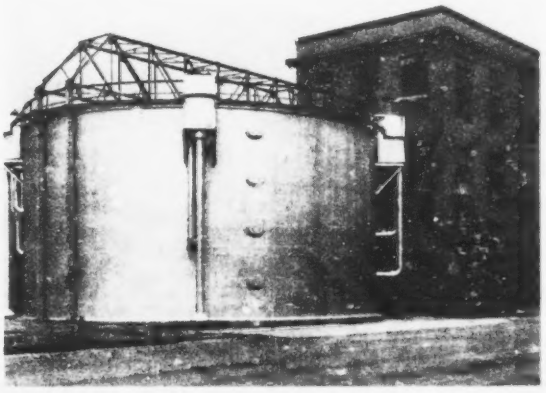
Treatment works are the means by which we treat our wastes and keep pollution out of our waterways



MUNICIPAL TREATMENT WORKS

Sewage treatment is as much a utility service as our water, electricity, gas and telephone services. Yet, when computed on the basis of cost-per-family, sewage treatment for everyone costs less than any of these other vital utilities.





INDUSTRIAL WASTE TREATMENT PLANTS

Industry can prevent pollution of our waterways through good "housekeeping" practices within the plant and by constructing waste treatment plants. Industrial waste treatment plants should be considered as much a part of the cost of production as labor, raw materials, and other plant expenses.

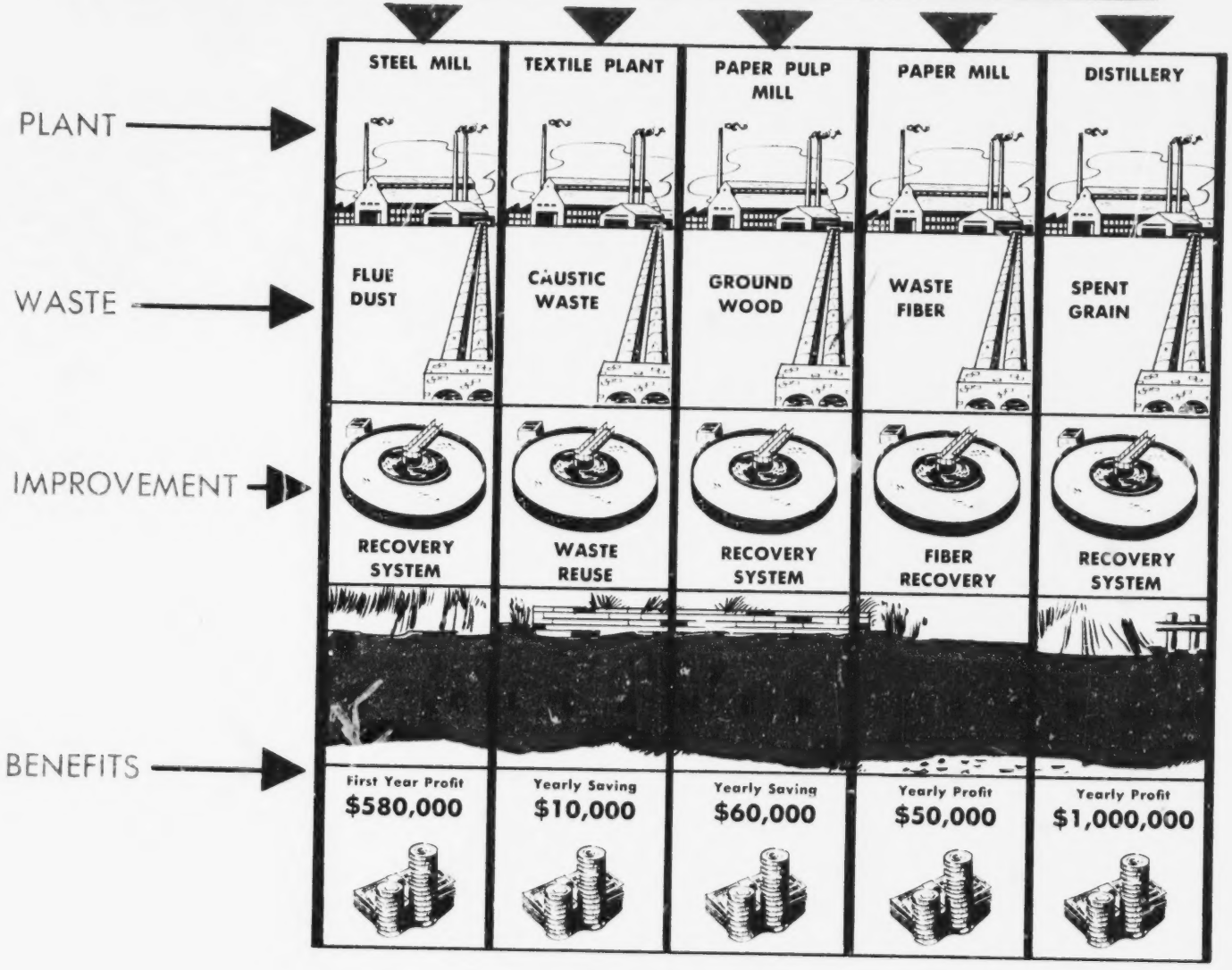
PROGRAM III — PROVIDE TECHNICAL AID AND RESEARCH

TECHNICAL AID AND RESEARCH

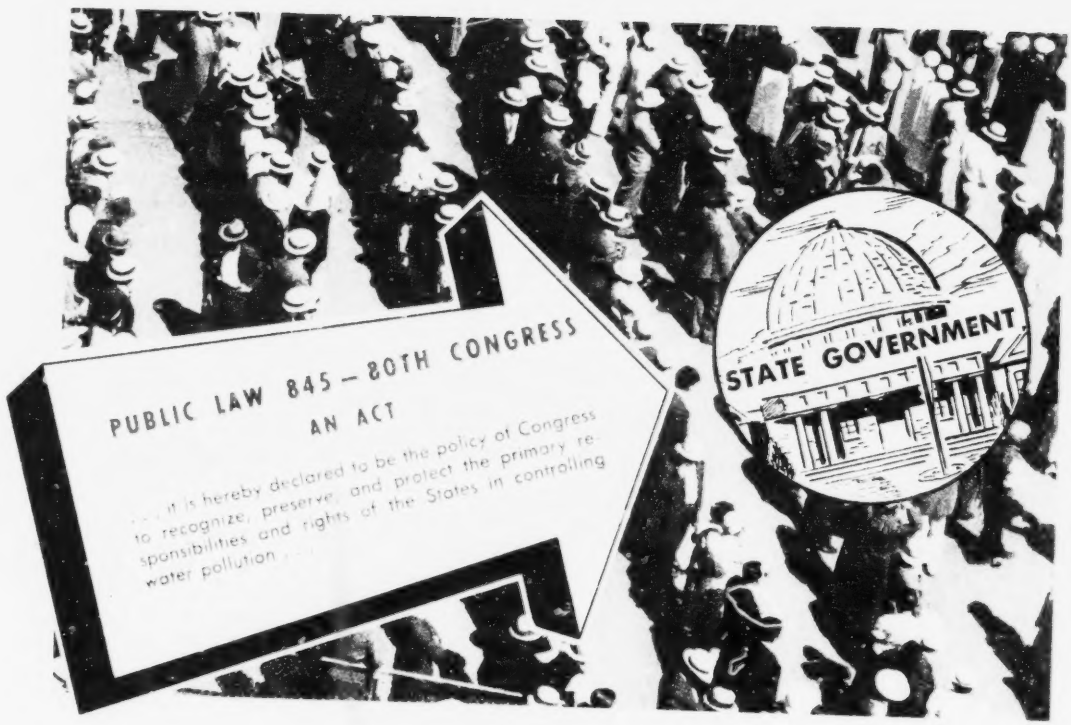
Technical aid and the benefits of research will help us to reduce the wastes going into our waterways. Our State can give us technical assistance in planning for our waste treatment needs and in helping our city officials train plant operators. Our State can assist also by lending us the services of their financial and legal experts. These people can help us in drawing up municipal anti-pollution statutes and working out methods of financing waste treatment projects.

Our Federal Government also is prepared to offer us technical assistance and the benefits of research. In close cooperation with our State authorities, the Federal Government carries on long-range programs to further basic knowledge of treatment and reduction of wastes. They are doing this in their laboratories and through consultation with our City and State officials. Our States, and the Federal Government, are also participating in joint investigations of pollution of inter-state rivers and lakes.

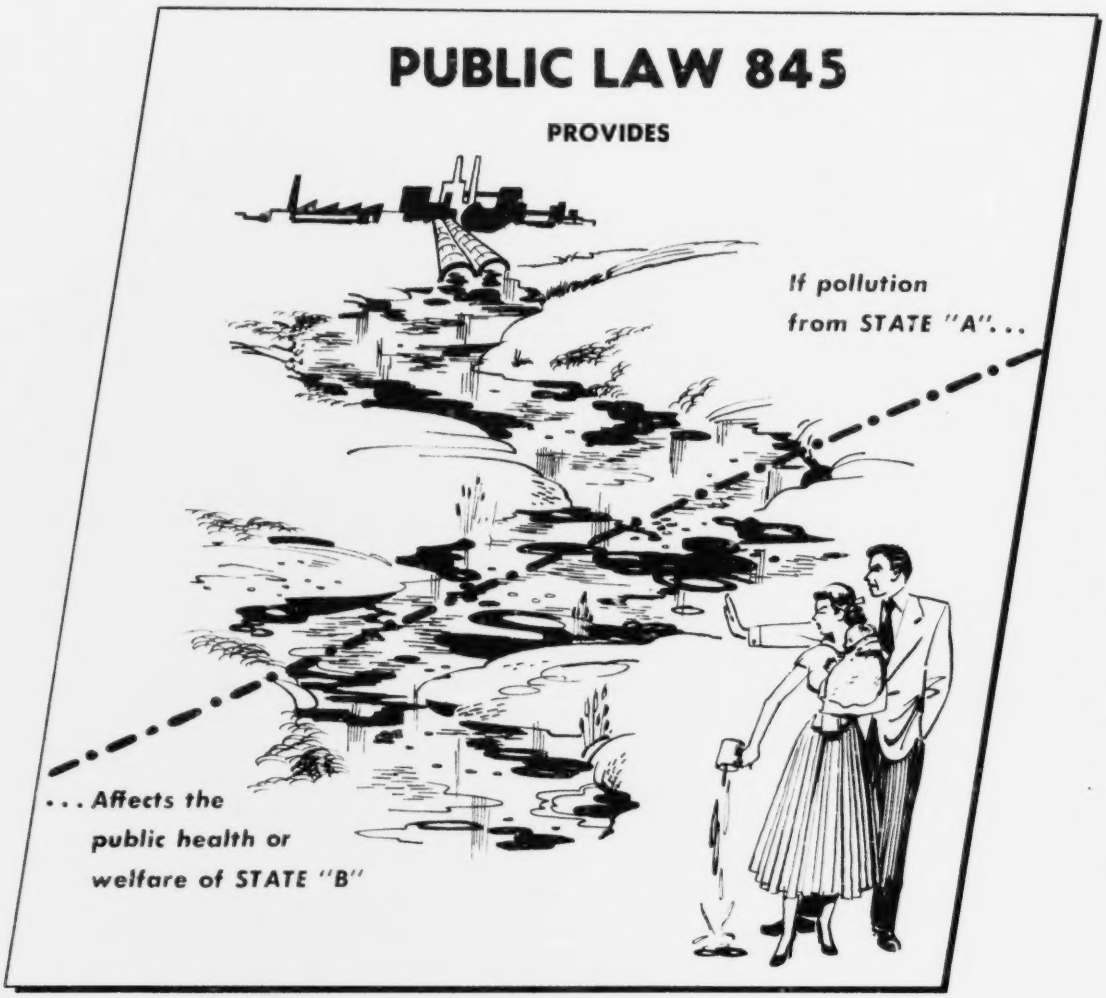
PROGRAM IV — ENCOURAGE RECOVERY AND USE OF WASTE PRODUCTS —



PROGRAM V — CARRY OUT THE LAW


PUBLIC LAW 845 — 80TH CONGRESS
AN ACT
. . . it is hereby declared to be the policy of Congress
to recognize, preserve, and protect the primary re-
sponsibilities and rights of the States in controlling
water pollution . . .
STATE GOVERNMENT

PROGRAM V — CARRY OUT THE LAW



We Have Seen what water pollution is, how it concerns us, and what can be done—and is being done—to prevent it. Now we must know where to go for information if we are to be intelligently informed about the situation in our own community. First, however, we must know what information is necessary for an understanding of our local water pollution problem.

As citizens in a community, for example, we should:

1. Know what uses are made of downstream water resources. For instance, is our river or lake being used for drinking water, for swimming, fishing, boating, irrigation, navigation, or industrial purposes?

2. Know what kind of wastes our community and our industries are discharging into our neighbor's water supply.

3. Know how these wastes affect the quality of the water.

4. Know if the wastes are treated before they go into the water.

5. Know to what better uses our water resources could be put if treatment were provided. For example, if our water resources are improved through treatment of our municipal and industrial wastes, could they not be used for bathing, recreation, fishing, and for any other purpose desired?

As citizens of a community—whether we are housewives, office workers, or manufacturers—we can obtain this information from a number of nearby sources:

1. Information on the many ways our community uses its water resources can be obtained from the city engineer, the city and State health departments, the city water department, recreation officials, wildlife and conservation clubs, garden clubs, civic and business organizations, and farm groups.

2. For information on the types of wastes produced by our community and our industries, we should see the city engineer and health department again, executives of our local industries, the Chamber of Commerce, and the manufacturing and trade associations.

3. For information on how our community and industrial wastes affect the water we all use, we can go again to the city health department and also to our State health and conservation agencies.

4. For information on waste treatment methods and water pollution conditions on a local and State-wide basis, we should communicate with our official State water pollution control agency. Each State has one.

5. For further information—this time on interstate and national water pollution matters—we should write to the Drainage Basin engineers of the Public Health Service, Federal Security Agency. There are 10 of them located strategically throughout the country.